

APIs: Powering your Business or Putting it at Risk?

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In today's interconnected digital landscape, Application Programming Interfaces (APIs) have emerged as the backbone of modern software development. They are invisible connectors enabling seamless communication and data exchange between different software systems. This article explores the multifaceted role of APIs in shaping the competitive landscape.

While APIs undoubtedly foster innovation and lower barriers to entry, they can also be weaponised by dominant firms to stifle competition. By delving into the mechanics of APIs and examining real-world examples, we aim to shed light on both the competitive benefits and potential anti-competitive pitfalls associated with their use. Understanding the dynamics of APIs is crucial for businesses and developers alike to navigate the complexities of the digital economy and make informed decisions about technology partnerships and strategies.

What are APIs?

Have you ever thought about how the Uber app knows exactly where you are or how you can seamlessly pay through PayTm without typing in your card details? Or, have you clicked on Login with Google and instantly gained access to an app/website? What about when you receive real-time weather updates in your calendar app or book a flight on a travel website that compares multiple airlines? What makes all these interactions possible?

The technology behind these smooth, almost invisible features is called API, short for Application Programming Interface. APIs are the hidden tools that enable different software systems to communicate with each other, exchange data, and share functionalities in a way that benefits users and businesses alike.

Think of it like this: each software speaks its own language, and APIs act as translators, making sure they can understand each other and work seamlessly together. APIs make the digital world interconnected and efficient, allowing companies to integrate powerful features (like secure payments, real-time location tracking, or social media logins) from other services without reinventing the wheel.

Here are a few everyday use cases to illustrate just how widespread and essential APIs have become in the digital landscape:

Integrating Maps:

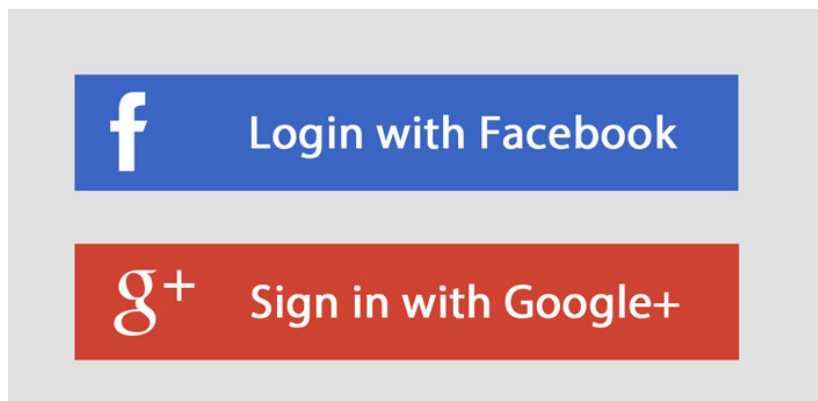
Take Uber, for example. The map you see in the app works because of an API. Instead of creating its own mapping system, Uber uses Google's mapping API, which acts as a bridge between Uber's app and Google's mapping service. The API sends requests for

location information to Google, which then sends back the data Uber needs to show real-time maps and locations. This way, Uber does not need to build a mapping system from scratch; it just uses the data Google provides through the API. By leveraging Google's powerful mapping data, Uber can focus on its core business, connecting riders with drivers while offering an enhanced user experience.



Social Login:

Have you noticed the convenience of “Login with Facebook” or “Login with Google” on many apps? This is another prime example of API usage. When you click these buttons, the website's API communicates with Facebook or Google's authentication servers, requesting access to your basic profile information.



Once you approve this access, Google's API (or Facebook, etc.) sends back a secure token to verify your identity. The website then uses this token to create or access your account, eliminating the need for a new password. This behind-the-scenes API communication boosts user convenience and enhances security. The entire process happens in seconds, streamlining the sign-up process while letting users maintain control over their data-sharing preferences.

Payment Gateways:

When you make a payment through PayTm/Razorpay or another payment processor on an e-commerce site, APIs are behind the scenes, ensuring the transaction goes through securely and efficiently. Payment APIs link an app or website to financial institutions, ensuring quick and secure payment processing without businesses needing to develop their own complex payment systems.

How APIs are sold:

Companies offer their APIs as tools that other businesses can use, like renting out specialized equipment. Every time a business uses an API, it is called an “API call.” Think of it as making a phone call to request a specific service. These calls are typically charged either through monthly subscriptions or by counting how many times the service is used.

When you open Uber and look at the map, Uber’s app makes an API call to Google Maps, asking, “Show me the streets and locations in this area.” Each such request is counted. Google then charges Uber based on how many times their maps were used. Similarly, when you pay through Razorpay on a shopping website, the site makes an API call to Razorpay asking, “Can you handle this payment?” Razorpay charges the website a small fee to process each payment.

This creates a win-win situation for everyone involved. Companies that provide APIs (like Google or Razorpay) earn money by sharing their technology, while businesses that use these APIs (like Uber or online stores) can offer better services to their customers without starting from scratch. This approach helps companies grow efficiently because they can focus on their core business while relying on specialized providers for specific features. It is similar to how a restaurant might use a delivery service instead of hiring their own delivery staff; using existing, proven solutions through APIs is often more practical than building everything in-house.

APIs as Enablers of Competition:



APIs have become key drivers of competition in the digital economy, particularly by democratising access to technology and fostering innovation. They democratised access to technology by allowing developers, from small startups to large enterprises, to leverage existing data (like Google’s Map data) and functionalities. This allowed developers to

build on top of established technologies. This profoundly impacts how competition is shaped, especially in fast-evolving industries. They shape the competition in the following ways:

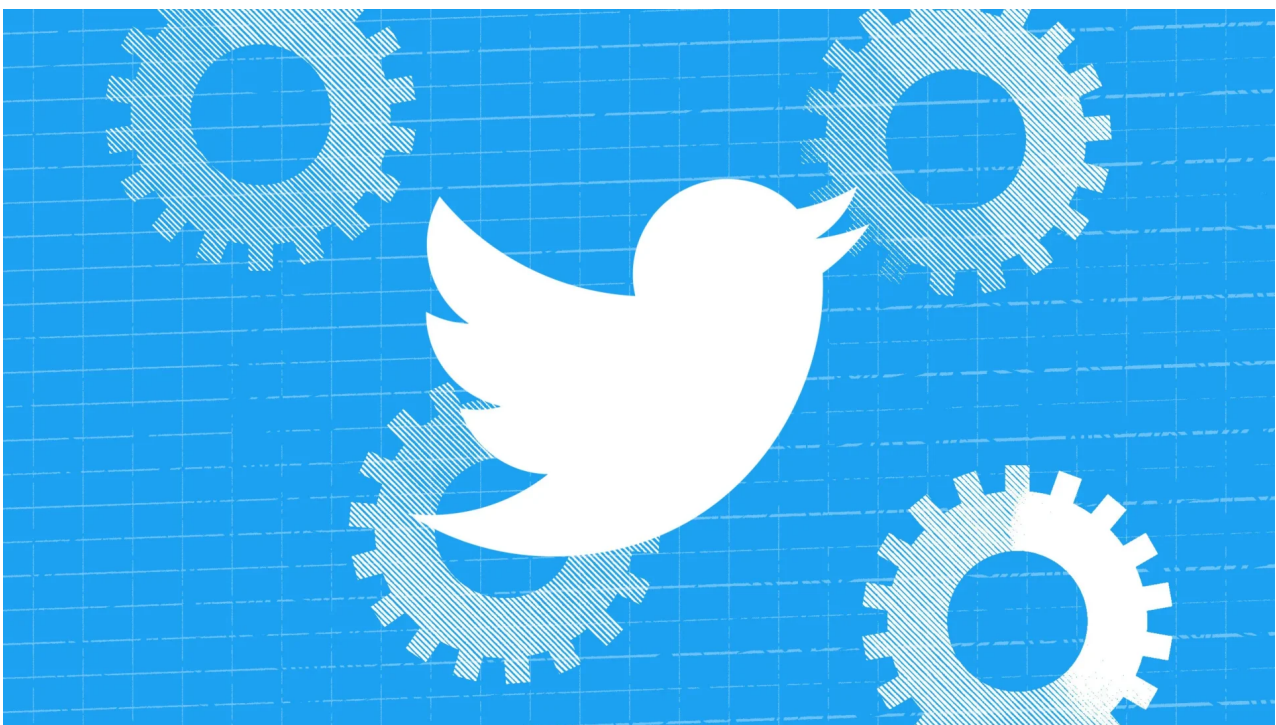
Lowering Barriers to Entry:

One of the most significant ways APIs encourage competition is by lowering the barriers to entry for new market participants. Traditionally, creating a fully functional software application could be an expensive and time-consuming process, requiring businesses to develop every feature in-house. APIs eliminate much of this complexity by offering pre-built solutions for common functionalities.

For example, a small startup can use the Google Maps API to integrate location services into its app without spending resources developing its own mapping software. This cuts down development time and costs and enables smaller companies to compete with larger, more established players. Without APIs, these smaller firms would be forced to compete on a very uneven playing field, lacking the technical resources to build complex features from scratch.

Unlocking Innovation:

APIs do not just reduce the cost of development; they also unlock new possibilities for innovation. By providing access to powerful tools and vast datasets, APIs encourage third-party developers to build applications that extend and enhance the functionality of the original platforms.



Take Twitter (Now 'X'), for instance. With the Twitter API, developers can create useful tools that enhance how we use Twitter, like apps that notify you when your favourite celebrities tweet, services that help businesses respond to customer complaints on Twitter faster, or tools that help you save and organise tweets you want to read later. This

“platform extension” (where the APIs add value to the original platform) enables the creation of entirely new markets and business models. Instead of just being a platform where people post messages, Twitter becomes a foundation for other businesses to build valuable services that make the platform more useful for different types of users.

In this way, APIs encourage creativity and experimentation, leading to the development of unique solutions tailored to specific user needs. This innovation, in turn, fosters competition by giving a wide range of players the ability to contribute to and shape the digital landscape.

Driving Market Diversification:

As more companies use APIs to access critical functionalities, the result is a complex market dynamic. While businesses no longer need to focus solely on creating every piece of technology in-house, this creates both opportunities and dependencies. They can leverage APIs to bring in best-in-class services like payment processing, artificial intelligence, etc., but must accept reliance on these API providers. This reshapes the marketplace in two ways: specialised providers can thrive by focusing exclusively on perfecting specific services (like payments or maps), while other businesses can quickly launch products by building on these ready-made solutions. The result is an interconnected ecosystem where success often depends on choosing and effectively utilising the right API partnerships.

For instance, payment gateway APIs (which perform the task of securely processing and validating customer card details and transferring money between bank accounts), like those provided by Razorpay, PayPal or Stripe, allow small businesses to offer secure online payments quickly without investing heavily in developing their own infrastructure pertaining to payments from their consumers. By making this capability accessible to smaller players, APIs help level the playing field in industries ranging from e-commerce to subscription services, enabling more diverse competition and a more decadent selection of consumer choices.

Creating New Business Models:

Finally, APIs are helping to create entirely new business models that would not exist without them. The ability to offer APIs as a service has led to the rise of API-driven business models. Two prominent examples are:

Twilio has built its entire business around communication APIs. When you receive a text message from your food delivery app about your order status or when a ride-sharing app lets you call your driver without revealing your actual phone number, chances are these features are powered by Twilio’s APIs. They handle all the complex backend work of routing calls and messages, allowing businesses to plug these communication features into their apps simply.



Stripe, on the other hand, specializes in payment processing APIs. When you make a purchase on a small business website and enter your card details, Stripe's APIs work behind the scenes to securely process that payment, handle currency conversions if needed, and ensure the money reaches the business's account. They have turned the complicated task of payment processing into a service that any business can easily integrate into their website or app.

These API-driven platforms enable other businesses to build products or services on top of their technologies, creating a new value layer for the business developing the APIs. Not only that, but it also expands the market for both the API provider and the developers who want to use the APIs to build their own products.

For example, Twilio, which provides APIs for communication services, allows developers to build custom messaging or voice call solutions on top of its platform. A developer might use Twilio's APIs to create a customer support chatbot with voice integration, adding a layer of value by offering a unique service that Twilio alone does not provide. This model not only generates revenue for the API provider but also creates more opportunities for competition by empowering developers to create differentiated products that cater to specific customer needs.

Essentially, APIs constitute a whole industry in itself, where businesses can use the tools developed by others to expand, bypass hurdles, and gain the market quickly.

The Dark Side of APIs: Anti-Competitive Practices:

APIs are essential tools that enable businesses to innovate and integrate with various services. However, dominant firms can also misuse APIs to undermine competition. The ability to control access to APIs, set terms of use, and dictate the flow of data between services can be leveraged in anti-competitive ways, limiting market access, discriminating against competitors, and stifling innovation. Some of the primary ways APIs can be used for anti-competitive practices.



Market Foreclosure: Restricting Competitor Access

Market foreclosure is an anti-competitive practice where a dominant firm uses its power to prevent competitors from entering or expanding in a particular market. This behaviour is harmful because it reduces competition, allowing the dominant firm to maintain or strengthen its market position by excluding potential rivals. Market foreclosure can occur in various ways, but the key element is that it creates barriers that prevent other businesses from accessing necessary tools, resources, or platforms.

One of the most common ways a dominant firm can engage in market foreclosure through APIs is by **restricting access to vital APIs**. By controlling these critical interaction points, the dominant firm can effectively prevent competitors from connecting to or integrating with its services, thus hindering their growth or blocking market entry altogether. For instance, a social media platform with a vast user base may refuse to provide API access to a new messaging app that wishes to connect with its users, effectively locking out that competitor from accessing the platform's ecosystem and preventing it from gaining traction.

Even if API access is granted, dominant firms may still engage in market foreclosure through **discriminatory access conditions**. In this case, the dominant firm offers API access under terms significantly less favourable to competitors than to its own products or services. For example, a platform might allow its own applications to access APIs with fewer restrictions, faster data rates, or lower fees while imposing more stringent conditions on third-party developers. This unequal treatment can make it more difficult for competitors to use the API effectively, ultimately stifling competition and innovation.

Data Discrimination: Unequal API Terms

Data discrimination occurs when a dominant firm uses its control over APIs to provide its products with preferential access to user data or other resources while denying or restricting such access to competitors. This practice undermines fairness in the marketplace by giving the dominant firm's products a clear advantage, even when the competitors offer similar or better services.



A dominant firm could, for example, grant more favourable API access to its own services, allowing it to gather richer data or perform more sophisticated operations. Meanwhile, competitors may be limited in their ability to collect the same data or interact with the API in ways that are necessary for their products to compete effectively. This can create a **data moat** around the dominant firm's ecosystem, ensuring that no competitors can match its level of service or innovation despite having the same technical capabilities.

In such cases, the competitor's inability to access critical data or functionality can lead to a scenario where the dominant firm's products are always ahead simply because they have better or more reliable API access. This creates a significant competitive disadvantage for others in the market and is often considered an anti-competitive practice because it distorts the level playing field for all market participants.

Also read: [The Day People Lost Faith in Microsoft...](#)

Tying & Bundling: Forcing Competitors to Use APIs on Unfavourable Terms

Another form of anti-competitive behaviour facilitated by APIs is **tying** and **bundling**. This occurs when a dominant firm requires competitors or third-party developers to use certain APIs as part of a larger bundle of services, even when they do not need or want the other

features. By forcing businesses to adopt an API they might not otherwise use, the dominant firm can impose additional costs or conditions that may not be in the competitor's best interest.

For example, a company that controls a large online platform might bundle access to its search API with other unrelated services, forcing a developer to use the entire suite of APIs rather than just the specific one they need. This may not only be inefficient for the competitor but also increase costs and create unnecessary dependencies on the dominant firm's ecosystem. In many cases, these bundles can extract more value from third-party developers or prevent them from seeking better, more efficient solutions elsewhere.

Tying can also occur when a dominant firm **forces** competitors to adopt its API as a **requirement** for accessing other popular services on its platform. For example, if an e-commerce platform requires sellers to use its payment processing API in conjunction with its listing APIs, competitors offering better or cheaper payment options may find it difficult to enter the market. This practice can harm both businesses and consumers by limiting choice and increasing costs.

Price Discrimination: Using APIs to Extract Excessive Fees



A dominant firm might also use its control over APIs to engage in price discrimination, charging different prices to different customers for the same access to the same API based on factors that are unrelated to the cost of providing the service. This can be an anti-competitive practice if the pricing structure is designed to favour certain players in the market or create financial barriers for others.

For example, a dominant company might offer its API at a lower price to its own affiliates or partners while charging competitors a premium for access. This price differentiation creates an uneven playing field and disadvantages businesses that rely on the API to

provide essential features or services. Smaller companies, which may not be able to afford the inflated fees, could be pushed out of the market, while larger firms with better access to the API at lower prices gain an unfair advantage.

Conclusion:

In conclusion, while APIs have revolutionized the digital landscape by fostering innovation and seamless integration, their dual nature as both enablers and potential instruments of market control cannot be ignored. When used as intended, APIs create opportunities for businesses to grow, innovate, and serve customers better. However, when misused by dominant firms, these same tools can create deep dependencies, restrict market access, and ultimately harm both businesses and consumers.

The challenge lies not in choosing between using or avoiding APIs; they are essential instruments in the current digital economy but in understanding their long-term implications for market dynamics, business independence, and consumer choice. As the digital economy continues to evolve, maintaining this balanced perspective on APIs will be crucial for businesses to make informed decisions about their technology partnerships and dependencies.

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